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WHAT IS CLAIMED IS:

1. 1. A developer container for use with a developer replenishing device having holding means for holding said developer container to allow a developer to be discharged from a mouth portion of said developer container into said developer replenishing device, and driving means for causing said developer container held by said holding means to rotate about an axis of said developer container, said developer container comprising:

10 a hollow cylindrical main body having said mouth portion on one end, said mouth portion being smaller in diameter than a shoulder portion which forms a circumferential wall adjacent said one end; and

15 guide means provided on a part of said shoulder portion for guiding said developer stored in said developer container to said mouth portion as said main body is rotated.

- 1 2. A developer container as claimed in claim 1, wherein said guide means comprises:

5 at least one first raised portion formed in a part of said shoulder portion and rising from said shoulder portion to an edge of said mouth portion; and

at least one second raised portion formed in a part of said shoulder portion contiguously with said first raised portion and rising toward the axis of said developer

10 container, about which said developer container is rotatable,
over said edge of said mouth portion.

1 3. A developer container as claimed in claim 2, wherein
said first and second raised portions comprise respectively a
first and a second ramp surface portion each rise more in a
direction of said axis as a distance from said mouth portion
5 increases.

1 4. A developer container as claimed in claim 3, wherein
said first and second ramp surface portions are recessed such
that at least a part thereof appears, in a section along a plane
containing said axis, as a curve whose center of curvature is
5 close to said axis.

1 5. A developer container as claimed in claim 4, wherein
said second ramp surface portion has a convex end portion
which appears, in a section along said plane, as a curve whose
center of curvature is remote from said axis.

1 6. A developer container as claimed in claim 5, wherein
said guide means comprises:

5 two first raised portions formed in the part of said
shoulder portion and rising from said shoulder portion to the
edge of said mouth portion, said two first raised portions
being provided on said shoulder portion at two positions 180
degrees spaced apart from each other in a direction of
rotation of said developer container; and

10 two second raised portions formed in the part of said
shoulder portion contiguously with said two first raised
portions respectively and rising toward the axis of said
developer container over the edge of said mouth portion, said
two second raised portions being provided on said shoulder at
15 two positions 180 degrees apart from each other in the
direction of rotation of said developer container.

1 7. A developer container as claimed in claim 1, wherein
the axis of said developer container is aligned with an axis of
said mouth portion of said developer container.

1 8. A developer container as claimed in claim 1, wherein
said mouth portion of said developer container has a circular
section.

1 9. A developer container as claimed in claim 5, wherein
at least one spiral guide groove is formed in inner periphery
of a circumferential wall of said developer container for
guiding said developer to said first and second ramp surface
5 portions.

1 10. A developer container as claimed in claim 9, wherein
said guide groove comprises:

a first inclined wall which said developer gets over; and
a second inclined wall for conveying said developer from
5 said first inclined wall to said first and second ramp surface
portions.

1 11. A developer container as claimed in claim 9, wherein
said main body is formed with a grip portion smaller in
diameter than said shoulder portion.

1 12. A developer container as claimed in claim 2, further
comprising a driven portion engageable with a drive portion of
said driving means for causing said developer container to
rotate.

1 13. A developer container as claimed in claim 12,
wherein said driven portion comprises a projection formed on
said one end of said main body and engageable with an
engaging member included in said drive portion.

1 14. A developer container as claimed in claim 12,
wherein said driven portion comprises a recess formed in said
one end of said main body and engageable with an engaging
member included in said drive portion.

1 15. A developer container as claimed in claim 12,
wherein said driven portion comprises an outer surface of
said first raised portion engageable with an engaging portion
included in said drive portion.

1 16. A developer container as claimed in claim 15,
wherein said driven portion further comprises a contact
surface engageable with said engaging portion of said drive
portion and provided on said shoulder portion at a position
5 180 degrees spaced apart from said outer surface of said
first raised portion in a direction of rotation of said

developer container. said contact surface having a function for guiding said developer to said mouth portion.

1 17. A developer container as claimed in claim 2. further comprising a positioning portion to be positioned on said holding means by a locking member included in said holding means.

1 18. A developer container as claimed in claim 17. wherein said positioning portion comprises an engaging portion formed in a predetermined position on an outer surface of a circumferential wall of said main body and engageable with said locking member.

5 1 19. A developer container as claimed in claim 18. wherein said engaging portion is convex.

1 20. A developer container as claimed in claim 18. wherein said engaging portion is concave.

1 21. A developer container as claimed in claim 17. further comprising a projection formed on an outer surface of said circumferential wall and facing said positioning portion. said projection causing said locking member of said holding means to hit against said outer surface of said circumferential wall as said developer container is rotated.

5 1 22. A developer container as claimed in claim 2. further comprising an annular collar protruding outward from said mouth portion of said developer container.

1 23. A developer container as claimed in claim 22,
wherein a plurality of projections are formed on an outer
surface of a circumferential wall of said collar.

1 24. A developer container as claimed in claim 22,
further comprising a lid for closing said mouth portion.

1 25. A developer container as claimed in claim 24,
wherein said lid comprises a bottom wall portion to seal said
mouth portion, and a circumferential wall portion to fit in
said mouth portion.

1 26. A developer container as claimed in claim 25,
wherein said lid comprises a lug extending out from
substantially the center of said bottom wall portion to be
chucked when said lid is attached or detached.

1 27. A developer container as claimed in claim 26,
wherein said lid further comprises preventing means located
in a space between an inner surface of said circumferential
wall and said lug for preventing a person from nipping said
5 lug.

1 28. A developer container as claimed in claim 27,
wherein said preventing means comprises an annular
obstruction surrounding said lug.

1 29. A developer container as claimed in claim 27,
wherein said preventing means comprises a plurality of
elongate pin-like members studded around said lug.

1 30. A developer container as claimed in claim 27.
wherein said preventing means comprises a concealing
member concealing said lug.

1 31. A developer container as claimed in claim 30.
wherein said concealing member comprises a thin flat piece
concealing neighborhood of said lug, and an annular portion
formed integrally with an outer peripheral portion of said
5 thin flat piece.

1 32. A developer container as claimed in claim 31.
wherein said thin flat piece is formed with a hole at the
center thereof which is slightly greater in diameter than said
lug, and a number of slits extending radially outward from
5 said hole.

1 33. A developer container as claimed in claim 25.
wherein said lid further comprises a connecting portion
connecting said bottom wall portion and said circumferential
wall portion and inclined in a direction in which said lid may
5 be removed.

1 34. A developer container as claimed in claim 33.
wherein said connecting portion is thinner than said bottom
wall.

1 35. A developer container as claimed in claim 33.
wherein said lid further comprises a portion having a saw-
toothed section and formed on a surface of said
circumferential wall to fit in said mouth portion.

36. A toner bottle for use with a toner replenishing device having a bottle holder into which a mouth portion of said toner bottle may fit for discharge of a toner in said toner bottle into said toner replenishing device, and a drive unit which rotatably drives said toner bottle when said toner bottle is mounted to said toner replenishing device, said toner bottle comprising:

a main body comprising a substantially hollow container having, adjacent one end of said toner bottle, a first diameter portion:

a discharge mouth at said one end, said discharge mouth comprising said mouth portion and having a second diameter substantially smaller than said first diameter; and

a circumferential and radially extending ramp surface configuration of the peripheral surface of said main body at said one end and connecting radially between said first diameter portion and a radial position no greater than said second diameter portion.

37. A toner bottle as claimed in claim 36, wherein said ramp surface portion rises to a radial position smaller than said first diameter so as to define a metering edge above which a metered amount of toner must flow to reach said mouth position.

1 38. A toner bottle as claimed in claim 37, wherein said
ramp surface portion is curved in the circumferential
direction..

1 39. A toner bottle as claimed in claim 38, wherein said
ramp surface portion is concavely shaped to define a toner
holding spoon portion.

1 40. A toner bottle for use with a toner replenishing
device having a bottle holder into which a mouth portion of
said toner bottle may fit for discharge of a toner in said toner
bottle into said toner replenishing device, and a drive unit
5 which rotatably drives said toner bottle about a longitudinal
axis thereof when said toner bottle is mounted to said toner
replenishing device, said toner bottle comprising:

a main body comprising a substantially hollow
container; and

10 a rotational force transfer projection or recess on a
radially extending surface of said main body and cooperating
with said bottle holder for transferring rotation of said
bottle holder to said toner bottle.

1 41. A toner bottle for use with a toner replenishing
device having a mouth portion for discharge of toner in said
toner bottle into said toner replenishing device, and a drive
unit which rotatably drives said toner bottle when said toner
5 bottle is mounted to said toner replenishing device, said toner
bottle comprising:

a main body comprising a substantially hollow container having, adjacent one end of said bottle, a first diameter portion:

10 a discharge mouth at said one end, said discharge mouth comprising said mouth portion and having a second diameter substantially smaller than said first diameter: and

a circumferential and radially extending ramp surface configuration of said main body at said one end and connecting
15 radially between said first diameter portion and a radial position no greater than said second diameter portion such that a controllable quantity of toner in said toner bottle is raised radially from said first diameter portion to said second diameter portion for feeding said controllable quantity
20 of toner to said discharge mouth when said toner bottle is rotated by said drive unit.

1 42. A toner bottle as claimed in claim 41, further comprising said toner in said bottle.

1 43. A toner bottle as claimed in claim 41, further comprising a rotation prevention projection on a radially extending surface of said main body adjacent said one end.

1 44. A toner bottle as claimed in claim 43, further comprising a spiral member formed on said main body for conveying said toner toward said mouth portion.

1 45. A toner bottle as claimed in claim 44, wherein said spiral member defines an edge of said ramp surface configuration.

1 46. A device for replenishing a developing device of an image forming apparatus with a developer, comprising:
a developer container containing a developer and having a mouth portion; and

5 holding means communicated to a developer replenishing section for holding said developer container while orienting said mouth portion toward said developer replenishing section:

10 said holding means being rotatable about one end in a substantially horizontal plane.

1 47. A device as claimed in claim 46, further comprising detaching means for detaching a lid from said developer container which is held by said holding means with said mouth portion closed by said lid.

1 48. A device as claimed in claim 47, further comprising attaching means for attaching said lid to said mouth portion of said developer carrier to thereby seal said mouth portion.

1 49. A device as claimed in claim 48, wherein said holding means is movable between a first position where said developer container may be mounted to said holding means easily, and a second position where said holding means is
5 communicable to said developer replenishing section.

50. A device as claimed in claim 49, further comprising control means for controlling said detaching means and said attaching means such that, at least when said holding means is located at said first position, said lid is fully attached to said mouth portion while, at least when said holding means is located at said second position, said lid is fully detached from said mouth portion.

51. A device as claimed in claim 49, wherein said detaching means and said attaching means each comprises :

retaining means selectively assuming an operative position for retaining said lid or an inoperative position for releasing said lid; and

moving means for moving at least one of said retaining means and said developer container toward and away from the other.

52. A device as claimed in claim 51, further comprising: urging means for urging said developer container toward said mouth portion in a direction for causing said retaining means or said developer container to move; and

positioning means for positioning said developer container in contact with said mouth portion.

53. A device as claimed in claim 52, further comprising driving means for causing said developer container held by said holding means to rotate about a longitudinal axis thereof.

1 54. A device as claimed in claim 53, wherein said
driving means comprises a motor, and transmitting means for
transmitting rotation of said motor to said developer
container.

1 55. A device as claimed in claim 54, wherein said
transmitting means comprises an annular gear link rotatable
about said axis of said developer container, and comprising an
engaging portion engageable with an engaging portion formed
5 on a shoulder portion of one end, adjacent said mouth portion,
of a hollow cylindrical main body of said developer container.

1 56. A device as claimed in claim 55, wherein said
engaging portion of said gear link comprises a link rib
engageable with a bottle rib formed on said one end of said
developer container where said engaging portion is provided.

1 57. A device as claimed in claim 55, wherein said
engaging portion of said gear link comprises an engaging
portion engageable with an outer surface of at least one
raised portion which is formed in a part of said shoulder
5 portion and raised from said shoulder portion of said main
body to an edge of said mouth portion.

1 58. A device as claimed in claim 57, wherein said
engaging portion of said gear link is further engageable with a
contact surface provided on said shoulder portion at a
position 180 degrees spaced apart from said outer surface of
5 said raised portion in a direction of rotation of said developer

container. said contact surface having a function for guiding said developer to said mouth portion.

1 59. A device as claimed in claim 57. wherein said
engaging portion of said gear link comprises two engaging
portions engageable with outer surfaces of two raised
portions provided on said shoulder portion at two positions
5 180 degrees apart from each other in a direction of rotation
of said developer container.

1 60. A device as claimed in claim 51. further comprising
rotating means for rotating said retaining means about said
longitudinal axis of said developer container when said lid is
detached from or attached to said mouth portion.

1 61. A device as claimed in claim 51. further comprising
a cam device for causing said moving means to move when
said image forming apparatus and a predetermined portion of
said holding means are moved relative to each other between
5 said first and second positions.

1 62. A device as claimed in claim 61. further comprising
restricting means for restricting movement of said moving
means at said first position such that said holding means
urges said lid against said mouth portion.

1 63. A device as claimed in claim 61. wherein said
holding means is rotatable about a shaft adjoining one end of
said holding means. said cam device adjoining said shaft.

1 64. A device as claimed in claim 48, wherein said
detaching means comprises:

a collet chuck for retaining said lid by chucking a lug
extending out from said lid:

5 moving means for causing at least one of said collet
chuck and said developer container to move toward and away
from the other; and

10 control means for opening, when said collet chuck and
said developer carrier are spaced apart a predetermined
distance, a chucking portion of said collet chuck to allow said
lug to enter, and squeezing, as the distance is increased by
said moving means, said chucking portion to retain said lug of
said lid.

1 65. A device as claimed in claim 64, wherein said
control means comprises:

a larger diameter portion on periphery of said collet
chuck:

5 a core slidably coupled over a smaller diameter portion
of said collet chuck opposite to said chucking portion with
respect to said larger diameter portion:

biasing means for constantly biasing said core toward
said mouth portion of said developer container:

10 an engaging portion on said core for squeezing said
chucking portion of said collet chuck; and

restricting means for restricting movement of said core against a force of said biasing means.

1 66. A device as claimed in claim 65, further comprising:
positioning means for positioning, against the force of
said biasing means, said developer container held by said
holding means at a position where an edge of said mouth
5 portion functions as said restricting means; and

a restricting member functioning, when said developer
container is removed from said holding means, as said
restricting means by restricting movement of said core at a
position remote from said edge of said mouth portion of said
10 developer container which is positioned by said positioning
means.

1 67. A device as claimed in claim 66, wherein an
engaging portion is formed on a circumferential wall of said
developer container, said positioning means being movable
between an operative position for causing said engaging
5 portion to engage with said engaging portion of said developer
container and an inoperative position remoter from said
circumferential wall than said operative position.

1 68. A device as claimed in claim 64, wherein said
detaching means further comprises:

a cover supporting said collet chuck in such a manner as
to allow said collet chuck to move toward and away from said
5 developer container which is held in a predetermined position

of said holding means, said cover comprising an end wall having a hole throughout which said collet chuck extends, and a circumferential wall surrounding said collet chuck:

10 a core slidably coupled over said collet chuck and constantly biased toward said developer container, said core comprising an end portion capable of abutting against a flange included in said lid; and

an end seal for sealing a gap between said end portion and said flange of said lid.

1 69. A device as claimed in claim 68, wherein said end seal is provided with a multi-stage seal structure.

1 70. A device as claimed in claim 69, wherein said end seal comprises a plurality of elongate rectangular seal elements each having opposite ends thereof abutted against each other while surrounding said core, said seal members, 5 which adjoin in an axial direction of said core, being deviated, in a circumferential direction of said core, from each other in the position where the opposite ends are abutted.

1 71. A device as claimed in claim 68, wherein at least a surface of said end seal is made of 4-fluoro ethylene polymer.

1 72. A device as claimed in claim 68, wherein said end seal comprises an annular seal member made up of a first elastic material enriched in elasticity mainly in a circumferential direction and a second elastic material 5 provided on said first elastic material and enriched in

elasticity mainly in a direction of thickness. said seal member being fitted on a circumferential surface of said core.

1 73. A device as claimed in claim 48, wherein said attaching means comprises:

a collet chuck for chucking a lug extending out from said lid:

5 moving means for causing at least one of said collet chuck and said developer container to move toward and away from the other: and

releasing means for opening a chucking portion of said collet chuck to release said lug when or before or after a distance between said collet chuck and said developer container is reduced by said moving means to fully seal said mouth portion by said lid retained by said collet chuck.

1 74. A device as claimed in claim 73, wherein said releasing means comprises:

5 a core slidably mounted on said collet chuck and constantly biased by biasing means toward said mouth portion of said developer container:

a projection on said core and received in a slit formed in said collet chuck. said projection wedging, when brought to a rear narrow portion of said slid. said collet chuck to thereby open a chucking portion of said collet chuck: and

1 0 restricting means for restricting, when said distance is
reduced by said moving means until or before or after said lid
fully closes said mouth portion. movement of said core
against a force of said biasing means to thereby displace said
projection from a broad portion of said lid to said narrow
1 5 portion.

1 75. A device as claimed in claim 73, wherein said
attaching means further comprises:

5 a cover supporting said collet chuck in such a manner as
to allow said collet chuck to move toward and away from said
developer container which is held in a predetermined position
of said holding means, said cover comprising an end wall
having a hole throughout which said collet chuck extends, and
a circumferential wall surrounding said collet chuck;

1 0 a core slidably coupled over said collet chuck and
constantly biased toward said developer container, said core
comprising an end portion capable of abutting against a flange
included in said lid; and

 an end seal for sealing a gap between said end portion
and said flange of said lid.

1 76. A device as claimed in claim 75, wherein said end
seal is provided with a multi-stage seal structure.

1 77. A device as claimed in claim 76, wherein said end
seal comprises a plurality of elongate rectangular seal
elements each having opposite ends thereof abutted against

each other while surrounding said core. said seal members.
5 which adjoin in an axial direction of said core. being deviated.
in a circumferential direction of said core. from each other in
the position where the opposite ends are abutted.

1 78. A device as claimed in claim 77. wherein at least a
surface of said end seal is made of 4-ethyrene fluoride resin.

1 79. A device as claimed in claim 77. wherein said end
seal comprises an annular seal member made up of a first
elastic material enriched in elasticity mainly in a
circumferential direction and and a second elastic material
5 provided on said first elastic material and enriched in
elasticity mainly in a direction of thickness. said seal
member being fitted on a circumferential surface of said
core.